


WELL DEVELOPMENTS



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Board of Water Well Contractors

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IT'S TIME TO THINK ABOUT RENEWING YOUR LICENSE

The three Montana water well licenses --- water well contractor, monitoring well constructor, and water well driller --- are issued to the licensed individual on an annual basis. The renewal is due June 30 of each year. Renewal forms are mailed out during the first two weeks of May and are fairly simple to fill out. Three things are required: (1) the fee must be paid, (2) the bond must be current, and (3) proof of the continuing education hours must accompany the renewal form.

The fee schedule was recently changed, and the new renewal fees are as follows:

Contractor	\$250
Driller	\$150
Monitoring well constructor	\$250
Contractor/monitoring well license	\$275
Monitoring well constructors/driller,s license	\$275
Inactive licenses (all)	\$250

A late fee of \$75 is charged for any license not renewed by July 10.

Bonds - Bonds are usually renewed by the surety company's by issuing a continuation certificate to the bonded person or company. This continuation certificate must be sent in with the renewal. Some licensed persons assume that the bonding company sends the continuation certificate to Board of Water Well Contractors (BWWC), but this is not always the case. So it is important to be sure that BWWC has the current bond and continuation certificate at renewal time. It is helpful if the term of the bond is from June to June each year so that the continuing certificate is in your hands by the time you are ready to submit the renewal form.

Continuing Education Credits - are obtained year-round, and the law requires a minimum of four

hours of continuing education annually. The board maintains a fairly liberal policy of credit for attendance. However, four hours are the minimum, and you must show proof when you submit the renewal. Attendance lists are sometimes lost or not given to the board. Remember, it is your responsibility to prove your attendance. Credit is given for attendance at state, national, or regional conventions. Manufacturers and suppliers hold area-wide seminars. The Montana Environmental Training Center holds water-related classes throughout the year.

Inactive Status -

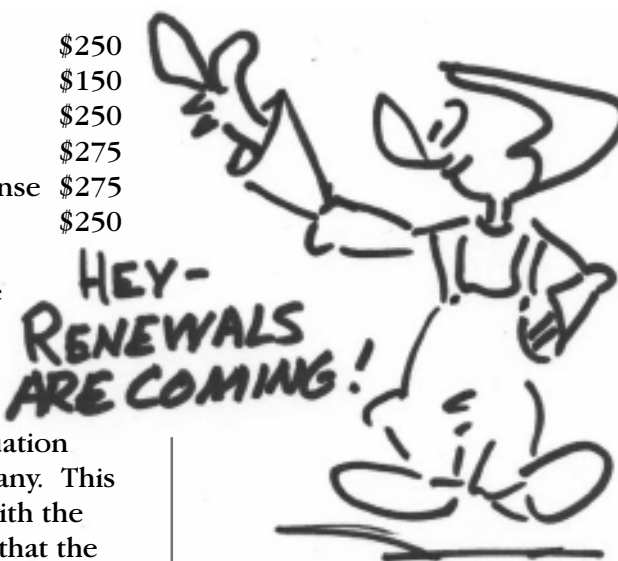
The board policy is that a licensed driller, contractor, or constructor on inactive status does not have to have a current bond or perform continuing education. However, the renewal fee must be paid to maintain the inactive status.

Complaints -

During the last license year, out of 120 initial complaints; BWWC recorded 55 complaints of alleged violations of water well construction requirements, 18 of these complaints were investigated. Four faulty wells were repaired without board action and two wells required board orders for repair.

Over the past five years there has been a gradual reduction in the number of complaints that require investigation. It is encouraging to the board that this

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DO YOU REALLY UNDERSTAND WHAT pH MEANS?

This article is reprinted from the 2002 newsletter of the Nebraska NWDA with its permission. There is no author cited. It gives an interesting explanation of pH.

It seems like everyone talks about pH. Besides water well constructors and wastewater operators, people such as gardeners, swimming pool caretakers, and even cosmetologists are concerned with pH. But, does everyone really understand what pH is?

In "pH," the capital "H" stands for the element hydrogen. The small "p" stands for "the power of," and together, they mean "the negative logarithm of the hydrogen-ion concentration." Otherwise, it is written as: $\text{pH} = \log\{\text{H}^+\}$

Okay, that's very nice, but what does it mean? Essentially, the pH of a substance, whether it is water, soil, or whatever, is the relative concentrations of two types of ions. If the positive hydrogen ions $\{\text{H}^+\}$, called cations, outnumber the negative hydroxide ions $\{\text{OH}^-\}$ called anions, the substance is said to be acidic. If the anions outnumber the cations, the substance is said to be basic.

Some people say "alkaline" for high pH, but actually it is more accurate to say basic. Alkaline refers to alkalinity, which is actually the measure of a substance's ability to absorb an acid. Finally, if

the anions and cations are equal to each other, the pH is said to be neutral.

By the way, pH does have a measuring scale. The scale goes from 0 to 14, with 0 being the most acidic and 14 being the most basic. If a substance is neutral, it is 7, right in the middle. Additionally, something that is the pH of 3 is not "one time more acidic" than something with the pH of 4.

Common things that are acidic include substances such as battery acid (sulfuric acid), carbonated beverages, and the inside of the stomach. Common things that are basic include lye soap and detergents. Finally, it should also be noted that, although most people consider something acidic to be dangerous, caustic soda, a chemical that is very basic, is just as dangerous as battery acid.

So what does pH have to do with drinking water? Essentially, pH needs to be monitored for two reasons: treatment and corrosion control. Hydrogen and hydroxide are very relative and force chemicals chemical reactions to occur. Most treatment methods are affected by pH.

Aluminum sulfate, for example, works best in a pH range of about 6.7 to 7.0. Hypochlorous acid,

which is the active disinfectant created with chlorine gas, works better in acidic situations. Likewise some treatment methods will alter the pH. Actually, the addition of any acid will tend to lower the acidity. On the other side of the spectrum, lime softening can raise the pH well above 8. This leads to the concept of erosion control.

As a rule of thumb, water operators will want the pH of the finished water to be around 6.8 to 7.2 pH. This is relatively neutral. Finished water much higher or lower in pH can tend to be corrosive to pumps, pipes, and other appurtenances in the distribution system. If a customer has copper pipes or even lead pipes or lead-based solder, as well as the lead in the fancy faucets, corrosive water can promote the leaching of lead or copper into the water.

Therefore, water plants will test the pH of the raw water, water in treatment, and finished water on a daily basis. The simple pH test can be a useful indicator-tool for the water operator to ensure the stability of the treatment chain, as well as to ensure the stability of the finished water. Just remember, you are merely testing the balance of the hydrogen and hydroxide ions. ♦

Complaints continued from Page 1
reduction is occurring. It means that several factors are influencing the complaint process, and certainly one factor is that contractors and drillers are more sensitive to the regulations and less likely to drill faulty well.

Dry Holes - The average family uses 5 to 7 gallons per minute (gpm) of water. Add a garden and a lawn, and the use increases to

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NEW LICENSEES

Water Well Contractors

Dusty Eslinger - Corvallis
Joseph Greer - Corvallis

Monitoring Well Constructors

John Trudnowski - Butte
Steve Pettis - Great Falls
Larry Gagnon - Butte

Currently 274 persons are licensed in Montana. ♦

Water Well Drillers

Justin Markowski - Bozeman
Matt McCartney - Choteau
Bart Teske - Libby
Larry Gagnon - Butte
Neal Elliot - East Helena

WHAT IS THIS "25' RULE" CONFUSION ALL ABOUT?

There is a misconception that wells under 25' deep are not legal wells. Another misconception is that all wells must be sealed to 25' depth. Here are the facts.

The only reference to 25' in the law is MCA 37-43-102 (7) defining "water well." It says that a water well "does not include spring development or excavations, by backhoe or otherwise, for recovery and use of surface waters or for the purpose of stock watering or irrigation where the depth is 25' or less." In other words, if a rancher wants a well that is 25'

deep or less and the water is used only for stock or irrigation, the well does not have to be drilled by a licensed person or regulated under the law and rules for water wells. All other wells do.

The other area of confusion is the Department of Environmental Quality (DEQ) requirement for *public wells and subdivisions*, where a minimum of 25' depth of sealing is required. ARM 36.21.635 (2) gives DEQ the authority to establish more stringent standards, and it has established a minimum sealing depth of 25' under the authority of ARM 17.36.303 (4)

and circular DEQ-1 Sec 3.3.5.2.

The law and rules set by the BWWC require a minimum of 18' of sealing with 1 ½ " of sealant within the annulus of the hole casing and/or continuous sealing where driven casing methods are used, as well as casing to the bottom of the usable hole. This is the minimum construction standard. If DEQ establishes a more stringent standard for wells under its authority, then the licensed contractor/driller must comply with that more stringent standard when working with public wells and subdivisions. ♦

Dry holes continued from Page 2

about 8 to 10 gpm. A comfortable water yield, if it is sustainable, is 12 gpm. Lending institutions may require 4 to 5 gpm for the property to qualify for mortgages. A well yielding 1½ to 2 gpm can be developed for minimal use by building a cistern for storage. Deeper wells can also store water for use during time of higher demand.

The BWWC has found that complaints often center around a promise by the driller that there will be enough water, but it turns out that the water is not sufficient. Montana regulations require, that after you surge and clean the well, you bail or pump for a minimum of one hour. This only indicates that the well is likely to be sustainable. By pump testing the well until drawdown can be measured, the prudent well owner will know better how the well will sustain pumping. Many varieties, from geological conditions to cyclic precipitation changes, can affect recharge, so there is no set rule to go by.

The BWWC recommends that you follow the procedures in the rules and inform the well owner that he

or she would be wise to do more pump testing. Well logs must be filed for dry wells. ♦

CONTINUING EDUCATION SCHEDULE

The Montana Environmental Training Center (METC) has prepared its training calendar for 2002, and BWWC has recommended several courses that qualify as approved training for water well licensees. They are as follows:

February 27, 2002	Contamination	Call 771-4433
	Missoula	
March 14-15, 2002	Pump Operations	Call 771-4433
	Great Falls	
April 23, 2002	Chlorination	Call 454-1151
	Laurel	
April 25, 2002		Call 454-1151
	Hamilton	
May 13-14, 2002	Systems and Hydrants	Call 454-1151
	Havre	
May 21-23, 2002	Backflow Prevention	Call 771-4433
	Great Falls	
June 5-7, 2002	Leaks and Losses	Call 771-4433
	Kalispell	

The Board of Water Well Contractors and METC have discussed training sessions that may be more specific to water well and monitoring well construction. If you have suggestions for training, please contact Bob Rudio at 444-6643 or Jan Boyle at 771-4433.

Most training schools by suppliers and manufacturers begin in the spring of the year. You should contact your suppliers for upcoming schedules. ♦

WEBSITES TO BOOKMARK

The Internet is a huge information bank, and finding what you are looking for can be time-consuming and frustrating. Provided below is a list of websites that relate to BWWC

MONTANA CODE ANNOTATED (MCA)

<http://www.dnrc.state.mt.us/wrd/MontanaCodesAnnotated.htm>

Provides the Montana statutes for BWWC

ADMINISTRATIVE RULES (ARM)

<http://www.dnrc.state.mt.us/wrd/AdminRules.htm>

Provides the Administrative Rules of Montana for BWWC

BWWC NEWSLETTER

<http://www.dnrc.state.mt.us/wrd/home.htm>

Provides the latest BWWC newsletter, *Well Developments*.

WELL LOG REPORT FORMS

<http://www.dnrc.state.mt.us/wrd/home.htm>

Contains the Well Log Report Form 603 for drillers, use only to record wells drilled.

WATER WELL DRILLING FOR THE PROSPECTIVE WELL OWNER

<http://www.dnrc.state.mt.us/wrd/home.htm>

Provides valuable information for persons looking at drilling a well

LICENSE RENEWAL FORM

<http://www.dnrc.state.mt.us/wrd/home.htm>

Provides the yearly license renewal form

BWWC BOARD MEMBERS

<http://www.dnrc.state.mt.us/wrd/home.htm>

Provides a list of all the board members.♦

PUBLIC WELLS

A “public water supply system” supplies at least 15 service connections or regularly serves at least 25 persons daily for a period of at least 60 days per year. DEQ has adopted specific and stringent standards for public wells as well as monitoring wells at landfills. The rules of BWWC are minimum standards that apply to all wells, public or private. If you are going to drill a well for a church, a restaurant, etc., you need to check with DEQ to see what additional standards may be required.♦

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Persons with disabilities who need an alternative, accessible format of this document should contact: DNRC, 48 North East Chance Gulch, P.O. Box 201601, Helena, MT 59620 — Phone: 406-444-6603/Fax: 406-444-0533/TDD: 406-444-6873



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